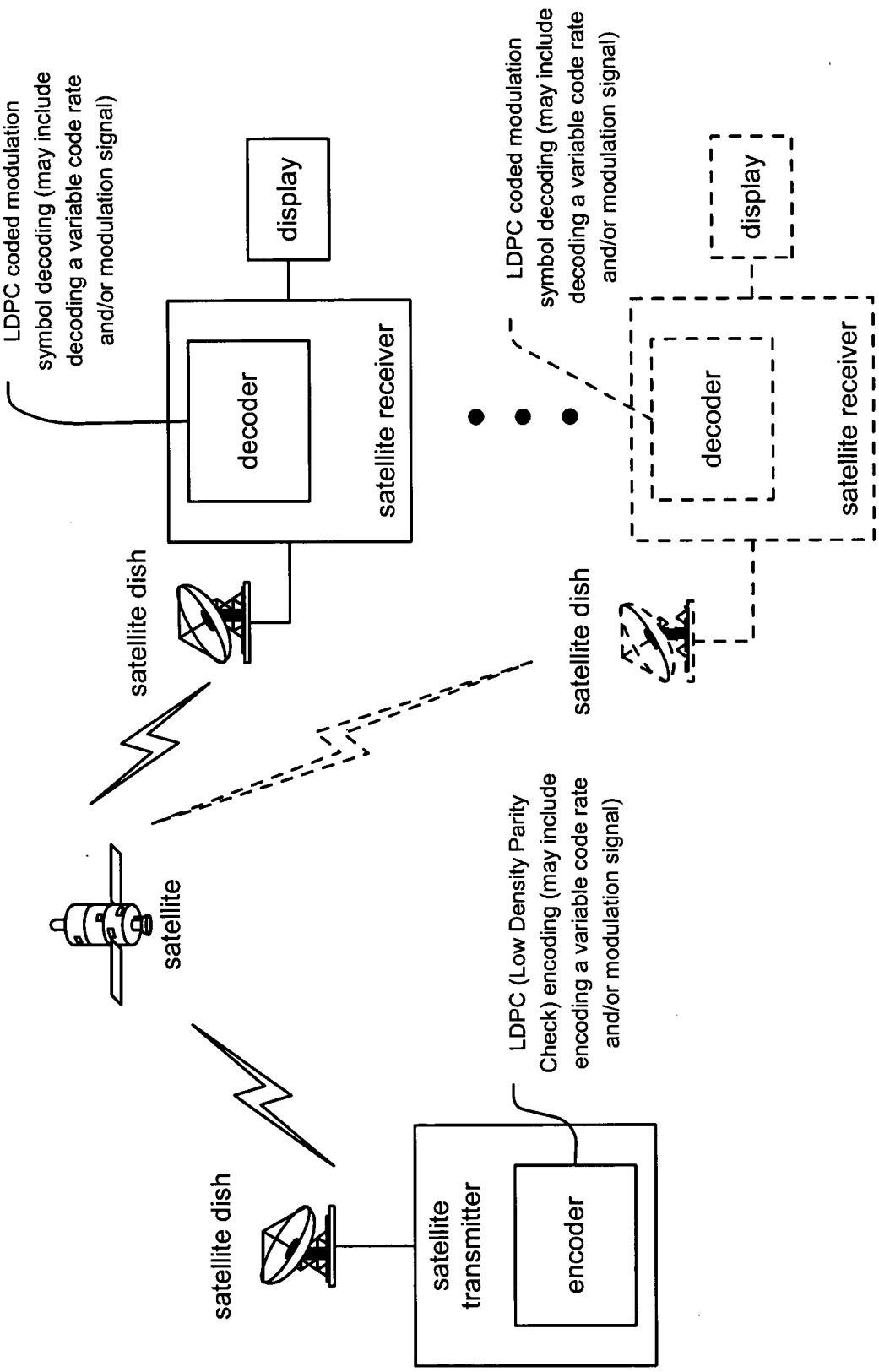
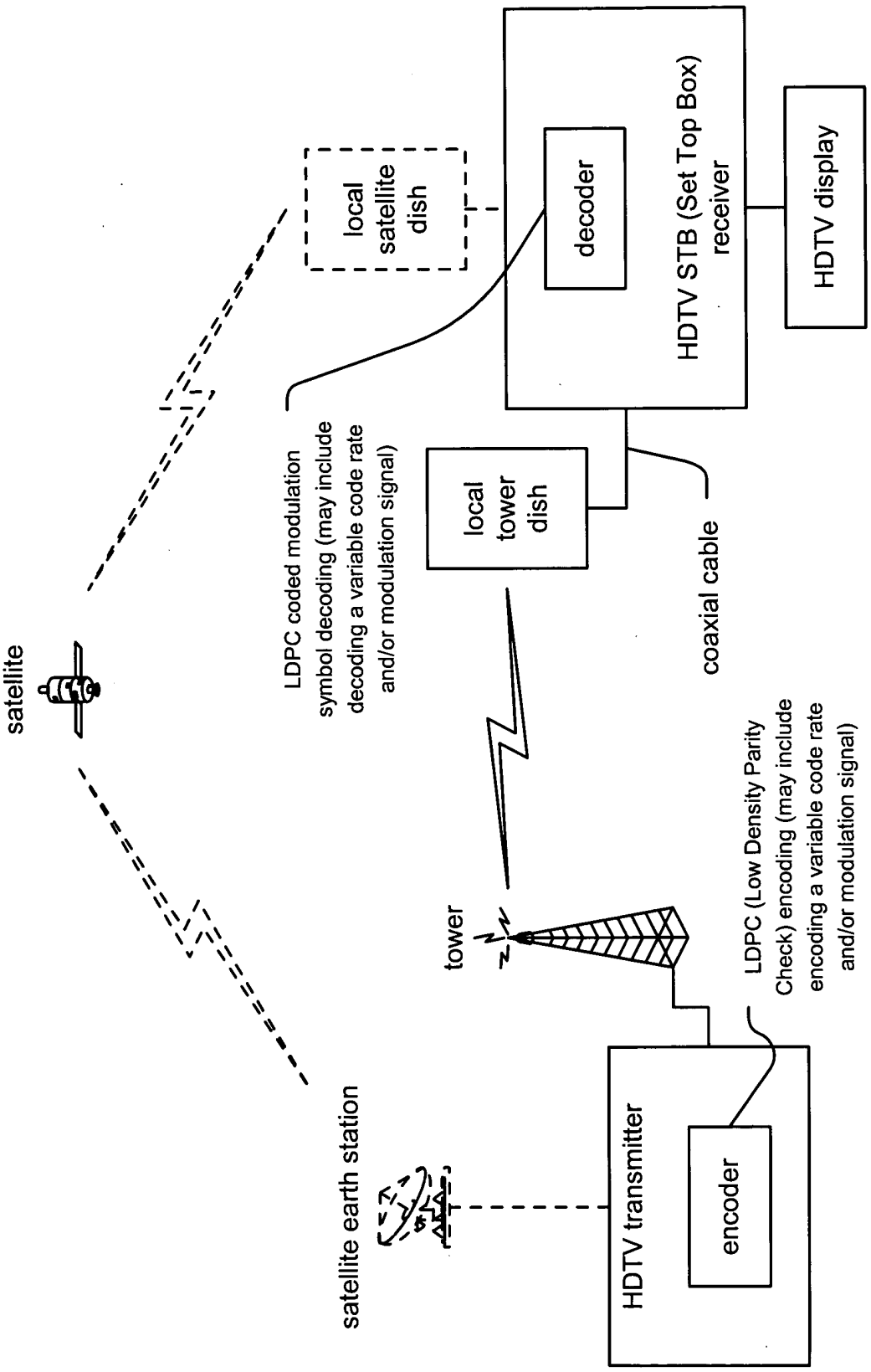


satellite communication system

Fig. 1



HDTV (High Definition Television) communication system

Fig. 2

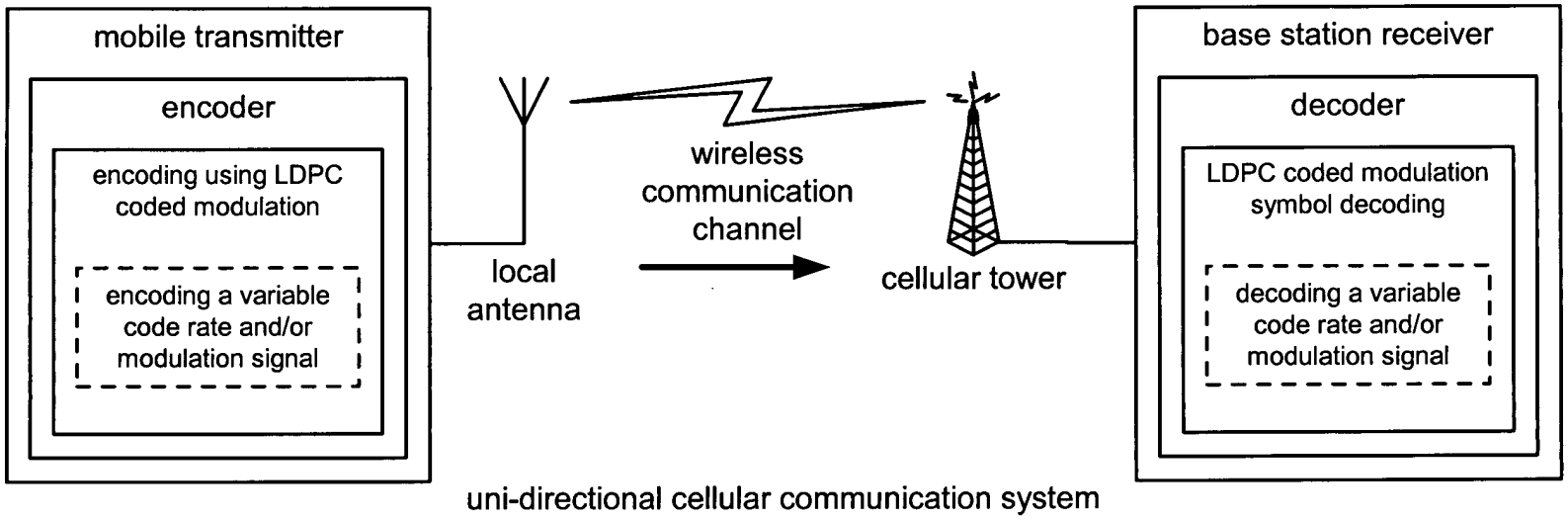

mobile transmitter
encoder
encoding using LDPC coded modulation
encoding a variable code rate and/or modulation signal
local antenna
wireless communication channel
cellular tower
base station receiver
decoder
LDPC coded modulation symbol decoding
decoding a variable code rate and/or modulation signal
uni-directional cellular communication system

Fig. 3A

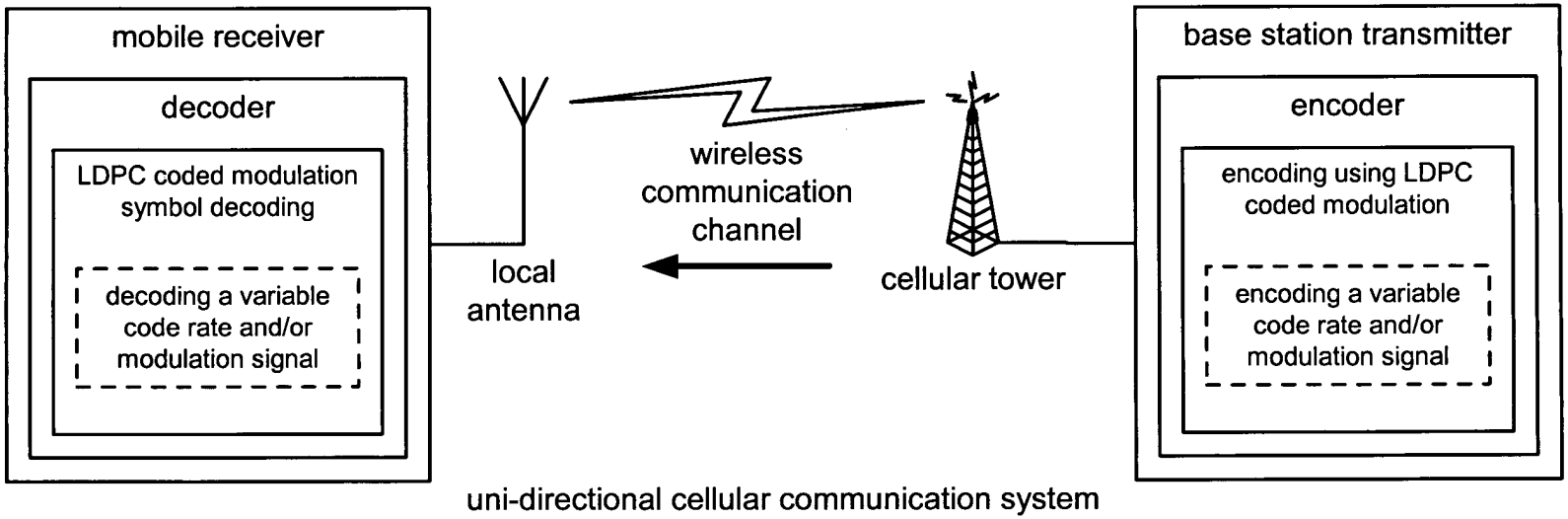
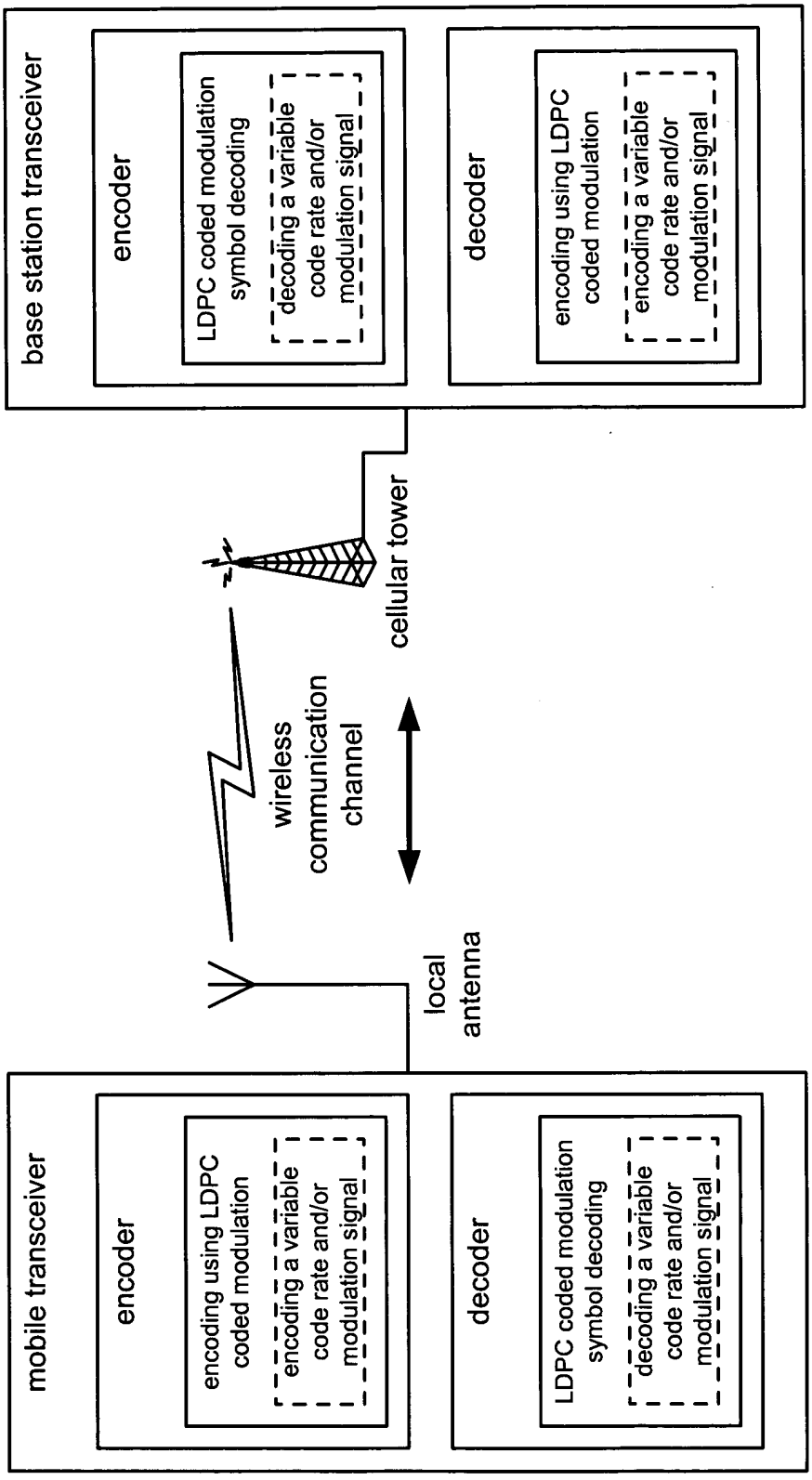
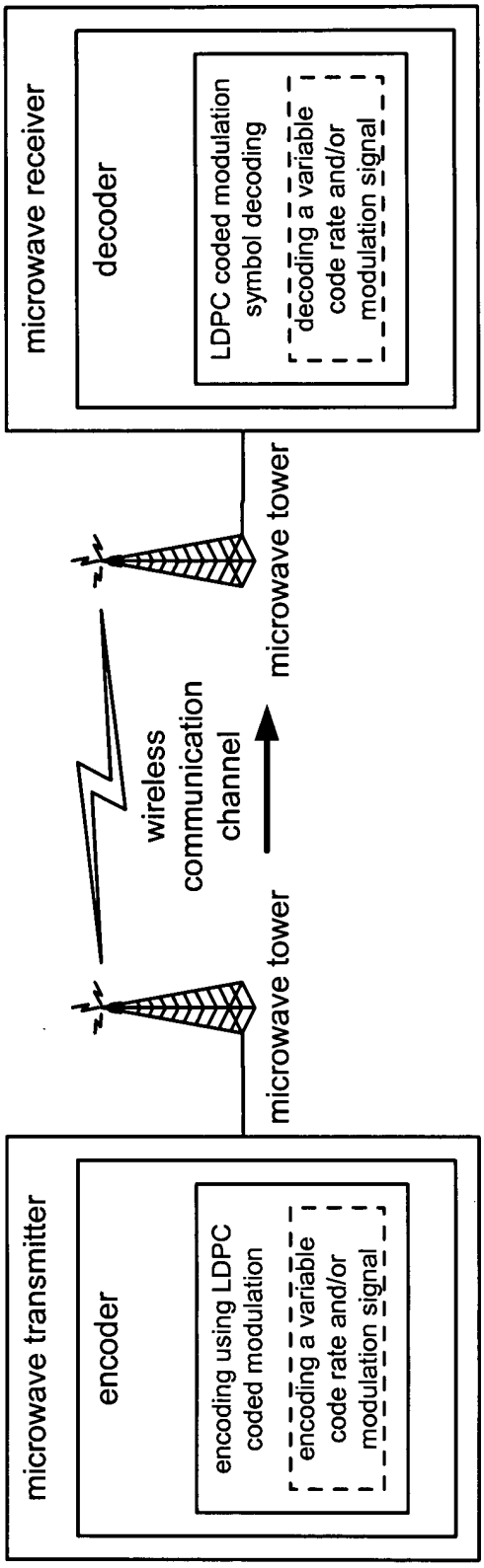

mobile receiver
decoder
LDPC coded modulation symbol decoding
decoding a variable code rate and/or modulation signal
local antenna
wireless communication channel
cellular tower
base station transmitter
encoder
encoding using LDPC coded modulation
encoding a variable code rate and/or modulation signal
uni-directional cellular communication system

Fig. 3B



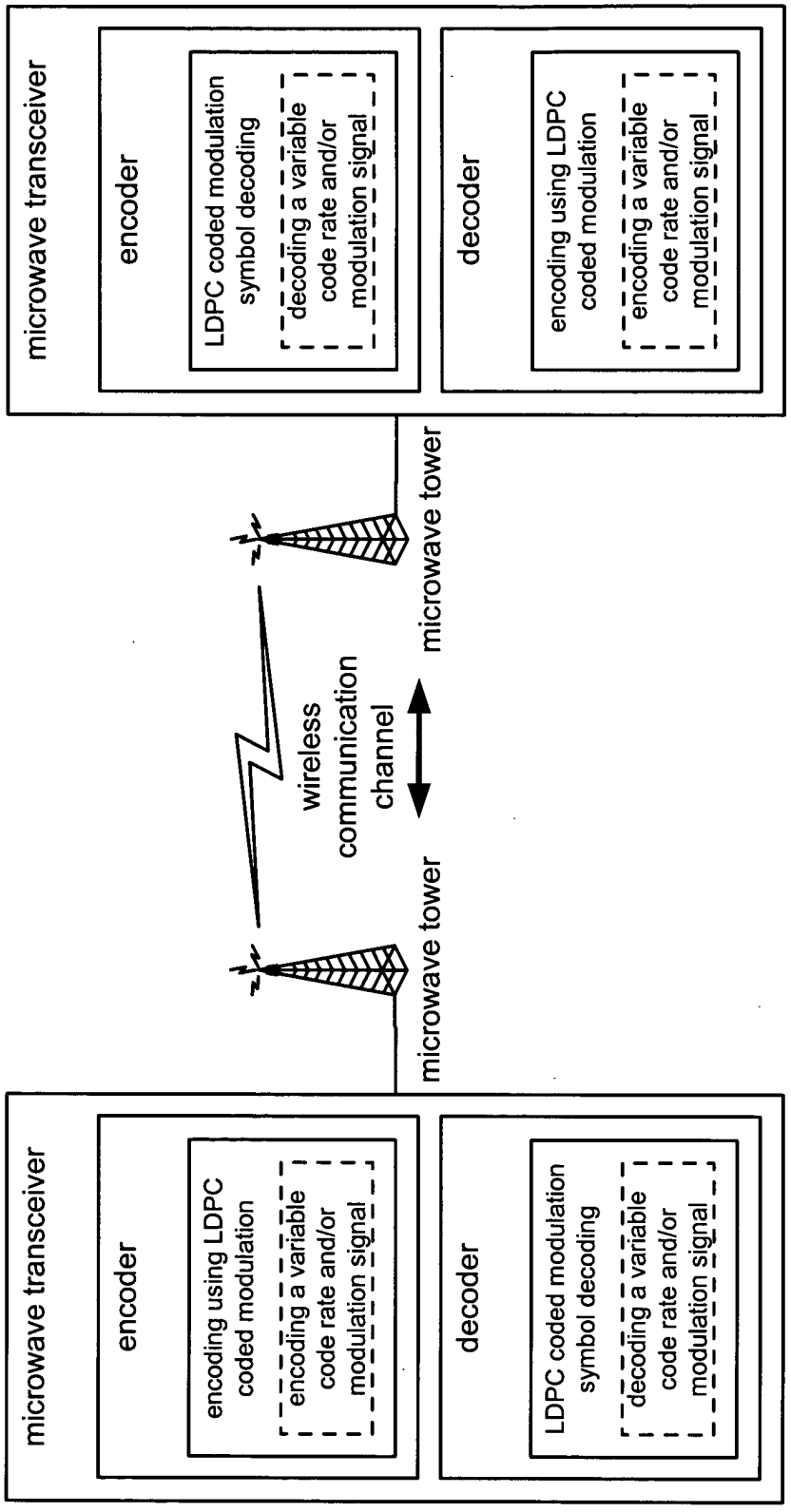
bi-directional cellular communication system

Fig. 4



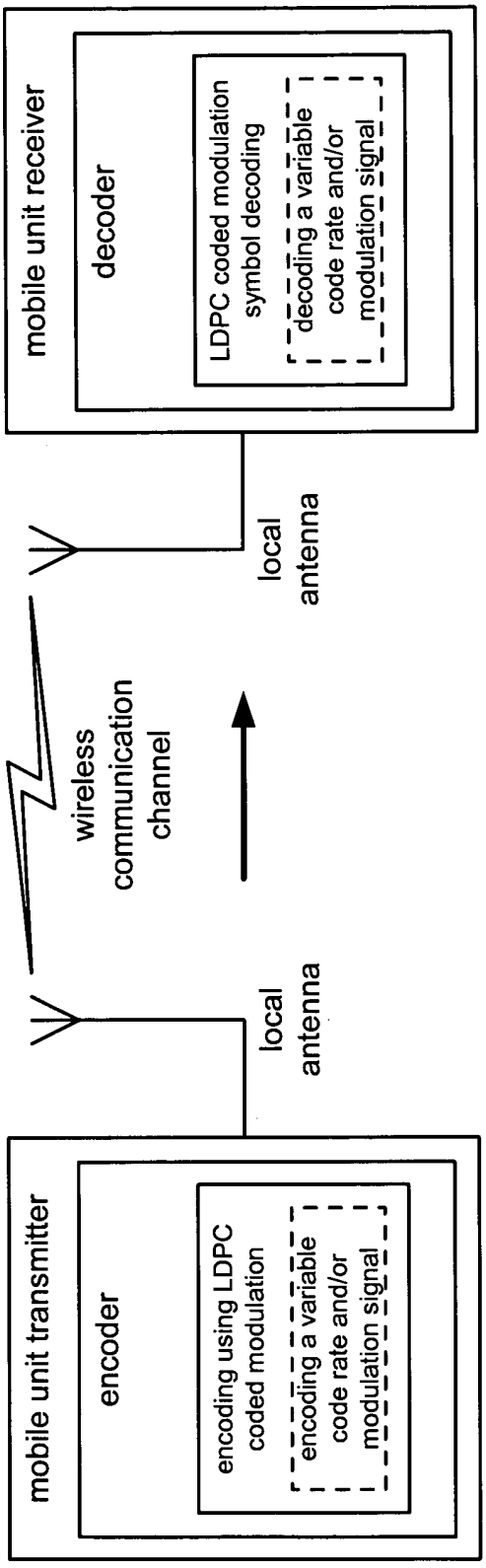
uni-directional microwave communication system

Fig. 5



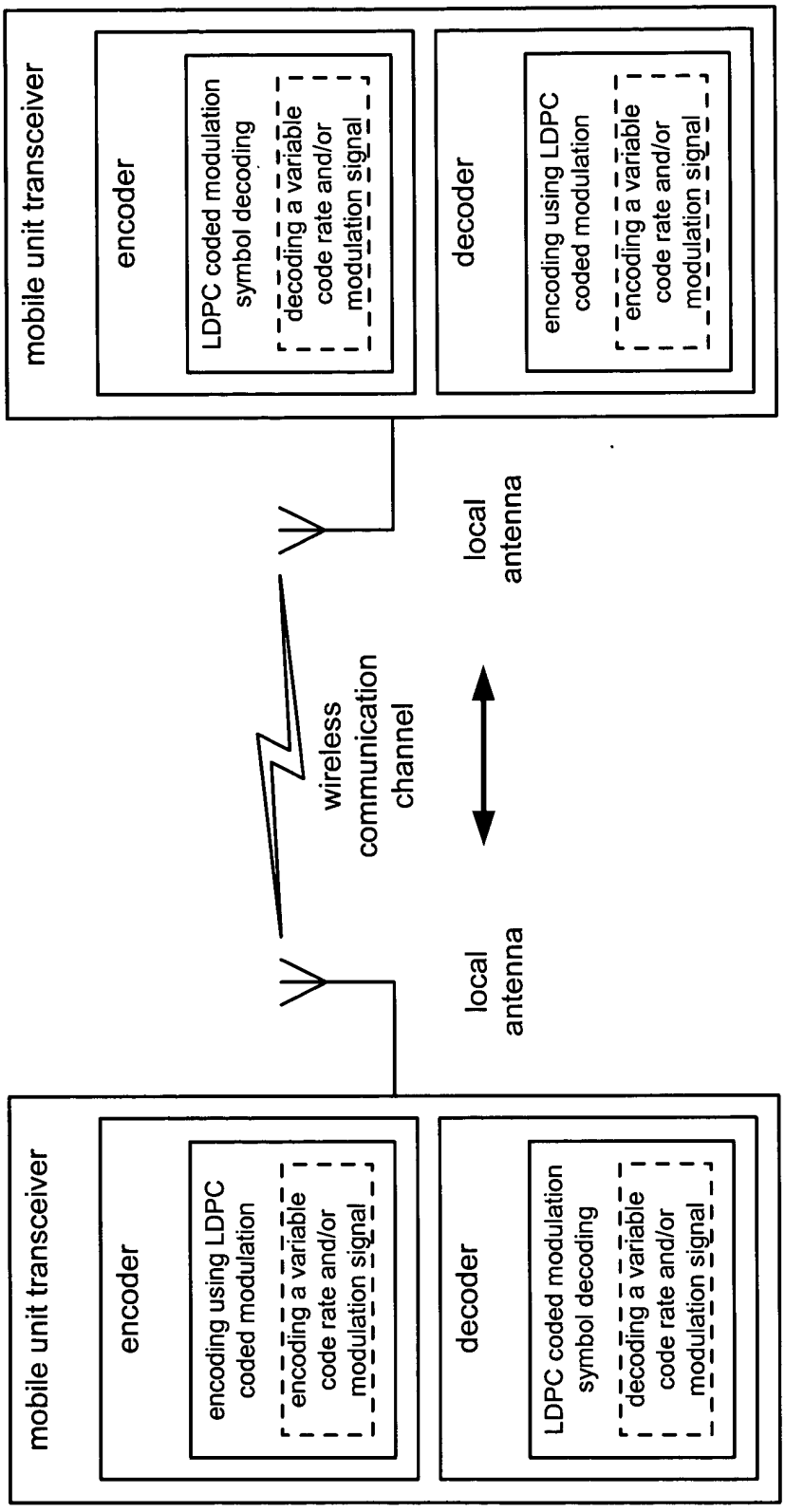
bi-directional microwave communication system

Fig. 6



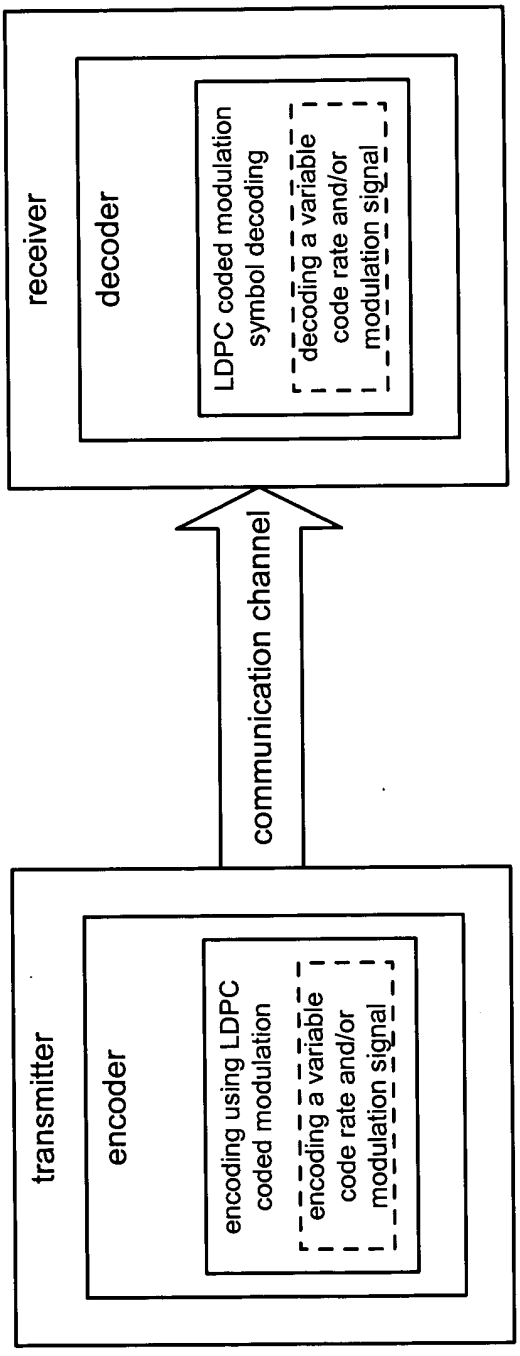
uni-directional point-to-point radio communication system

Fig. 7



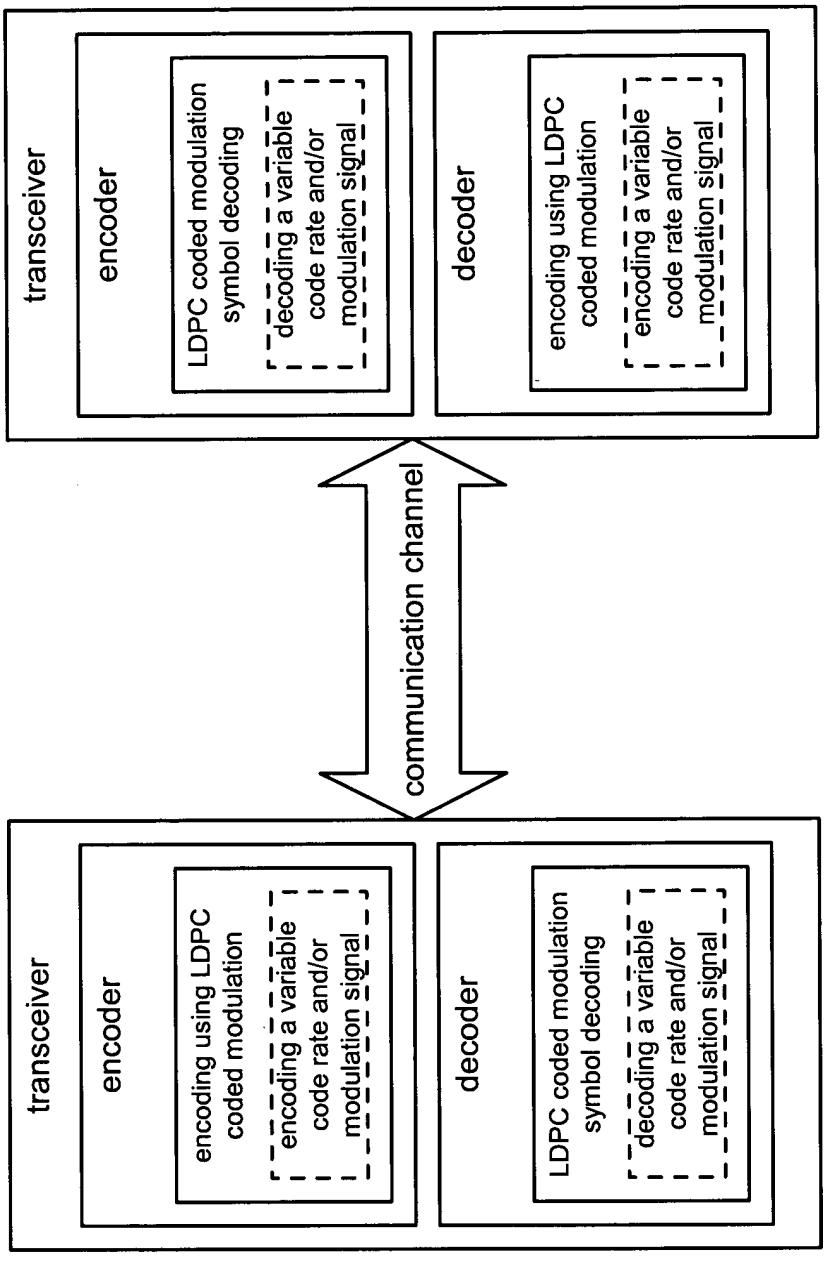
bi-directional point-to-point radio communication system

Fig. 8



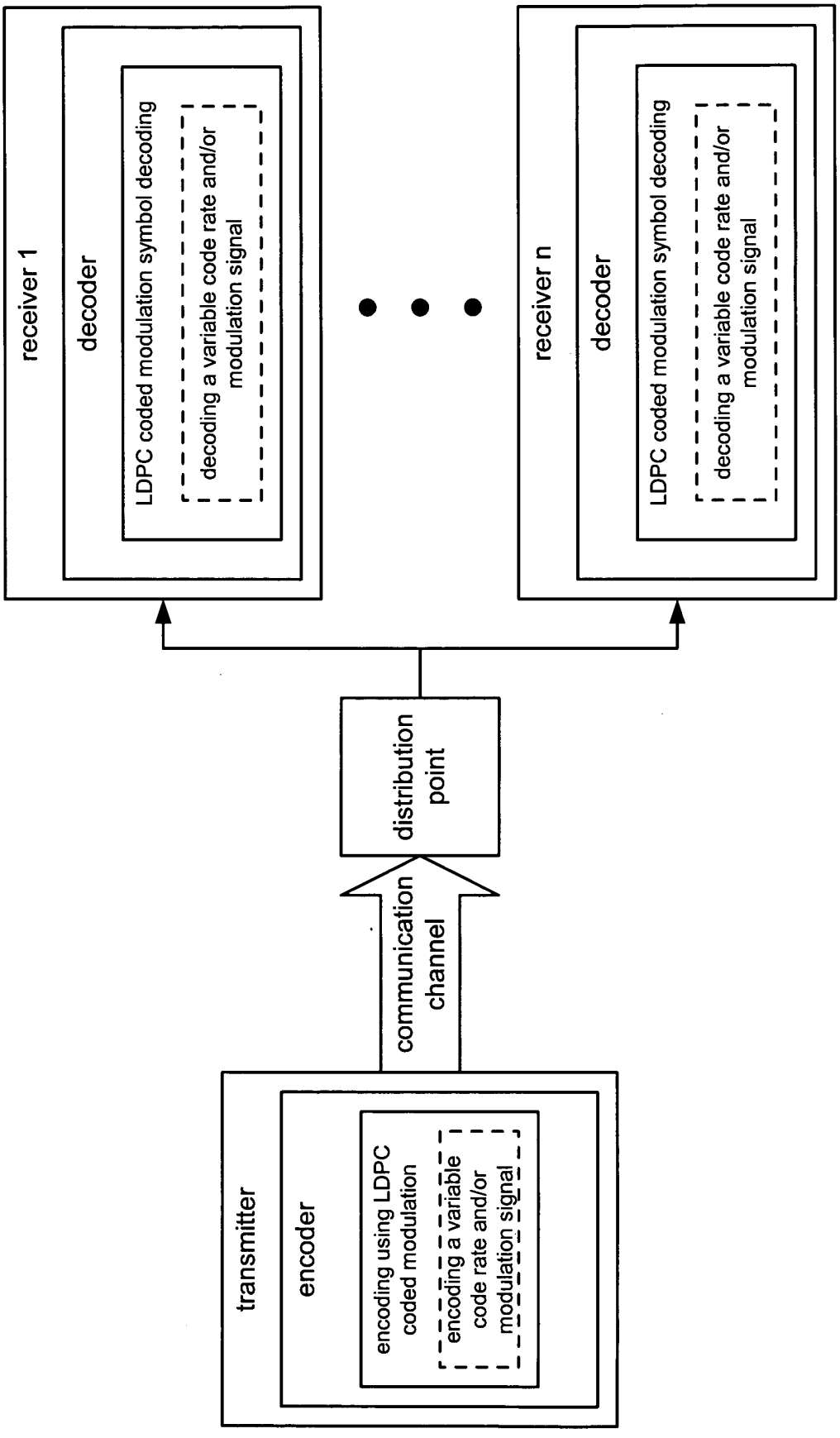
uni-directional communication system

Fig. 9



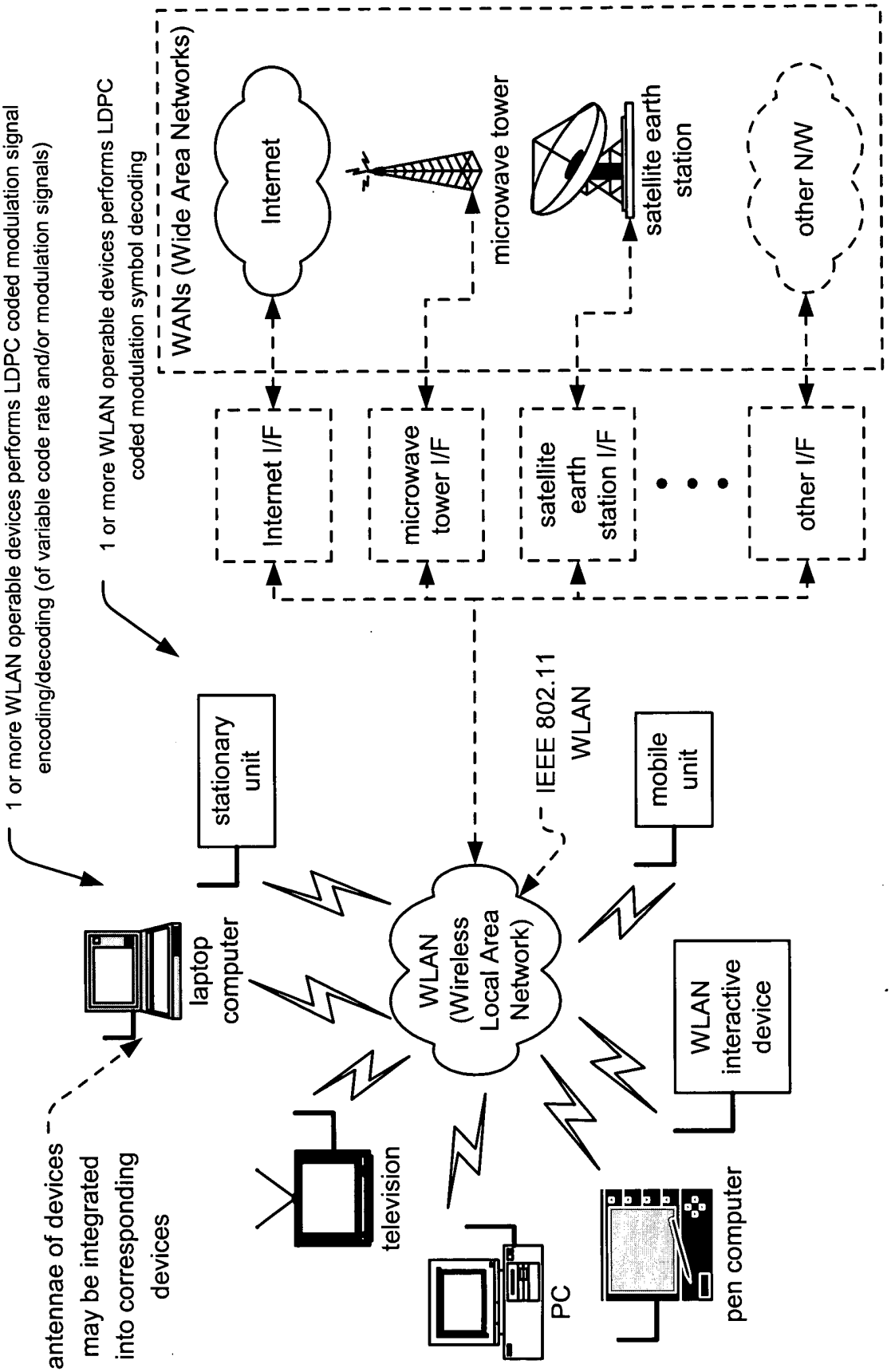
bi-directional communication system

Fig. 10



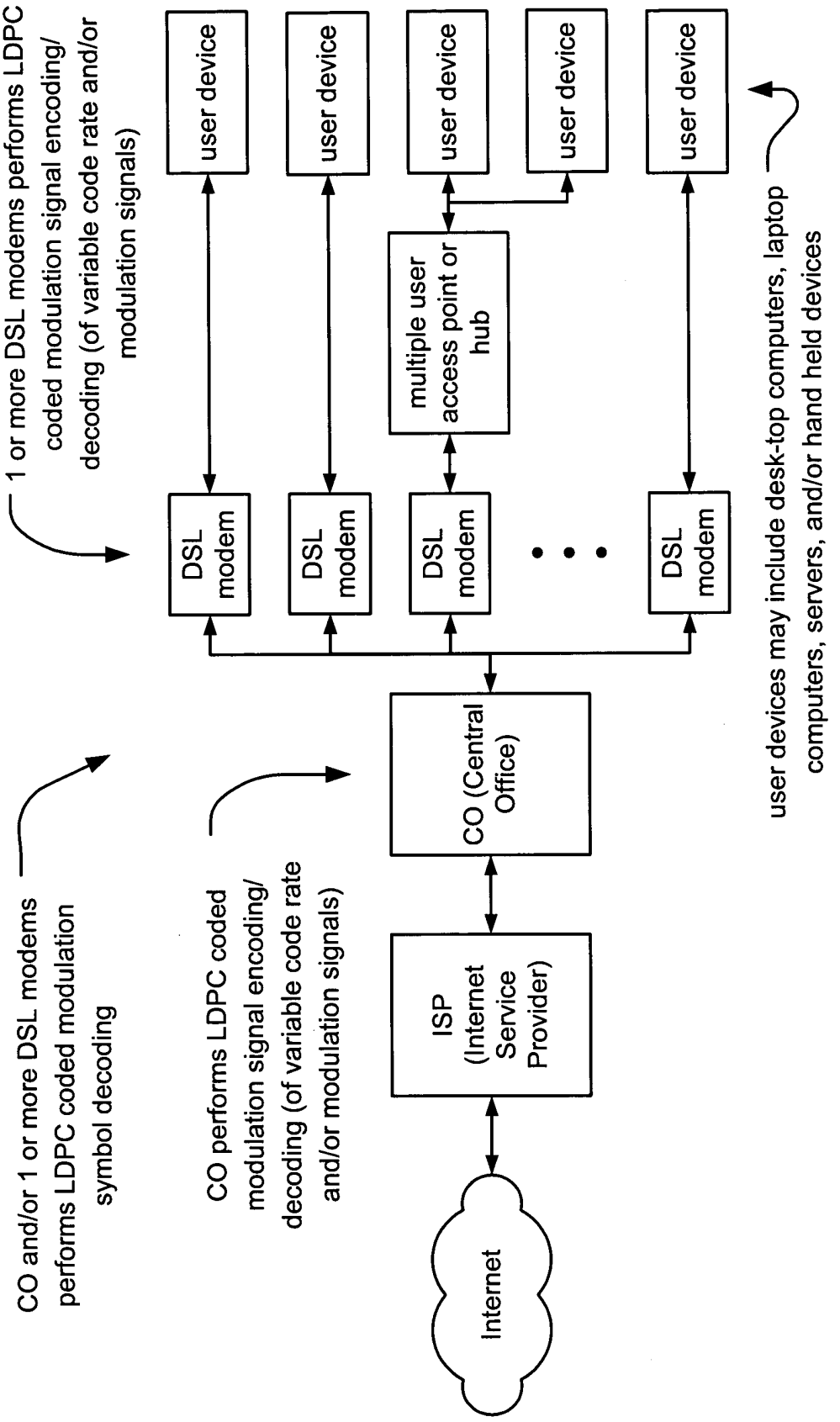
one to many communication system

Fig. 11



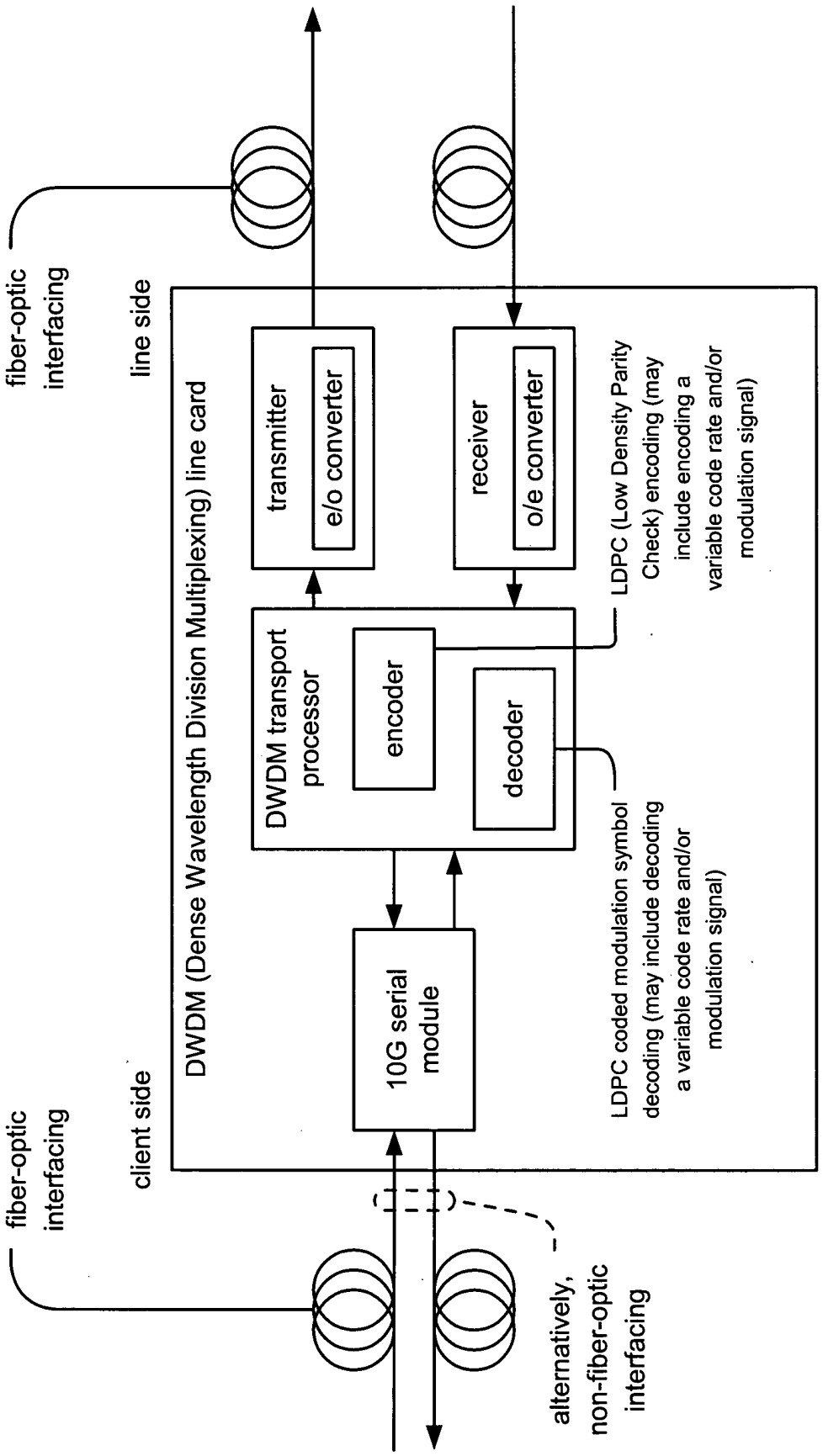
WLAN (Wireless Local Area Network) communication system

Fig. 12



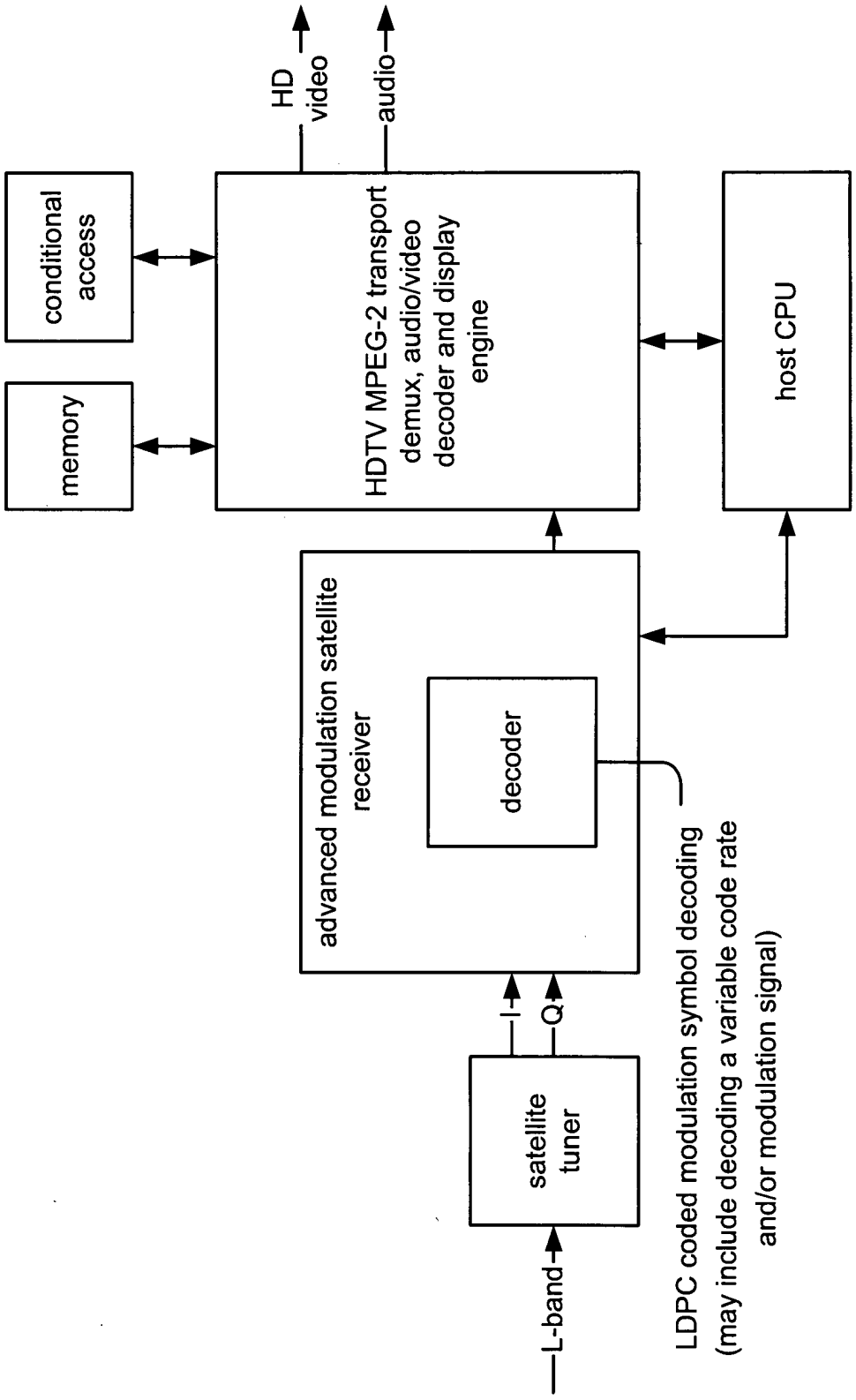
DSL (Digital Subscriber Line) communication system

Fig. 13



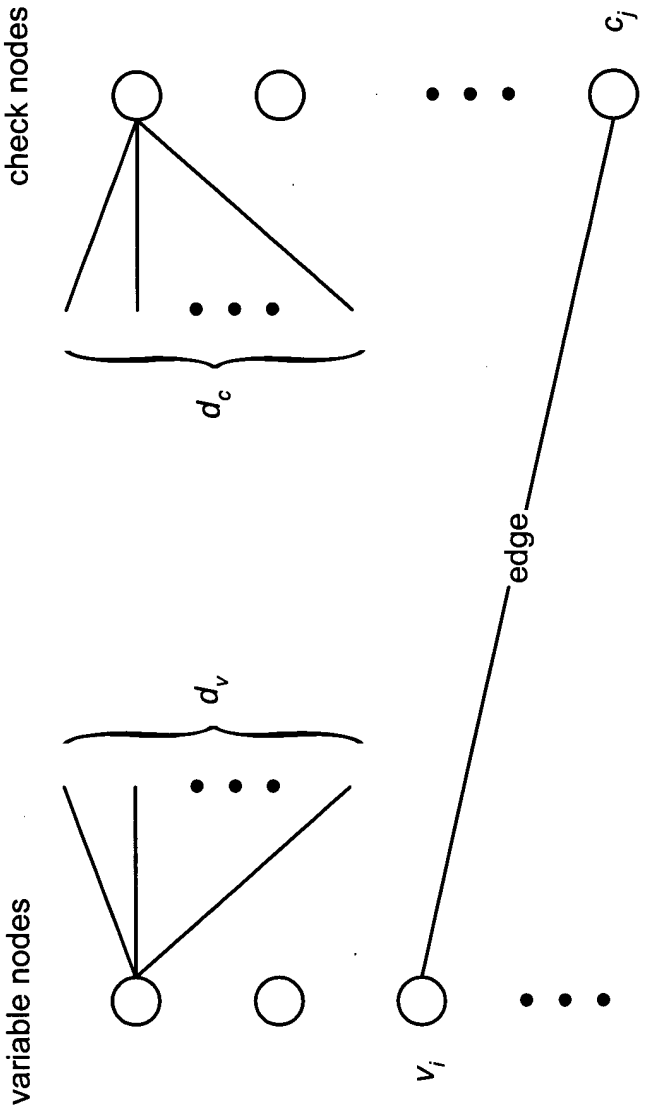
fiber-optic communication system

Fig. 14



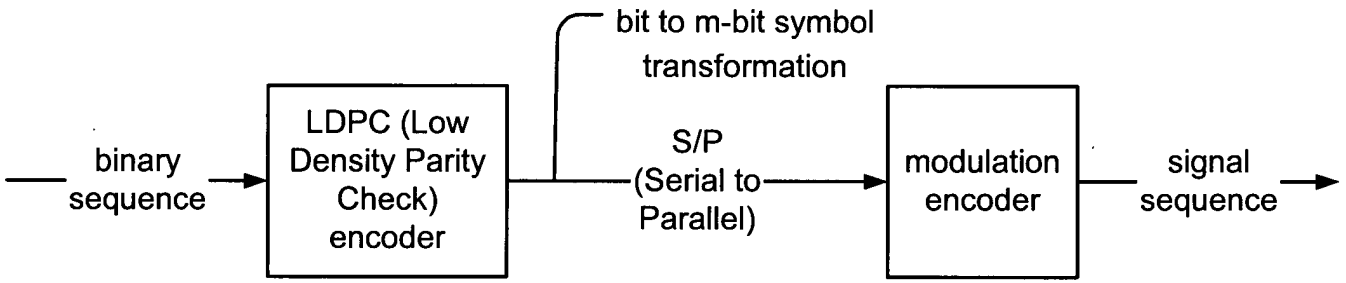
satellite receiver STB (Set Top Box) system

Fig. 15



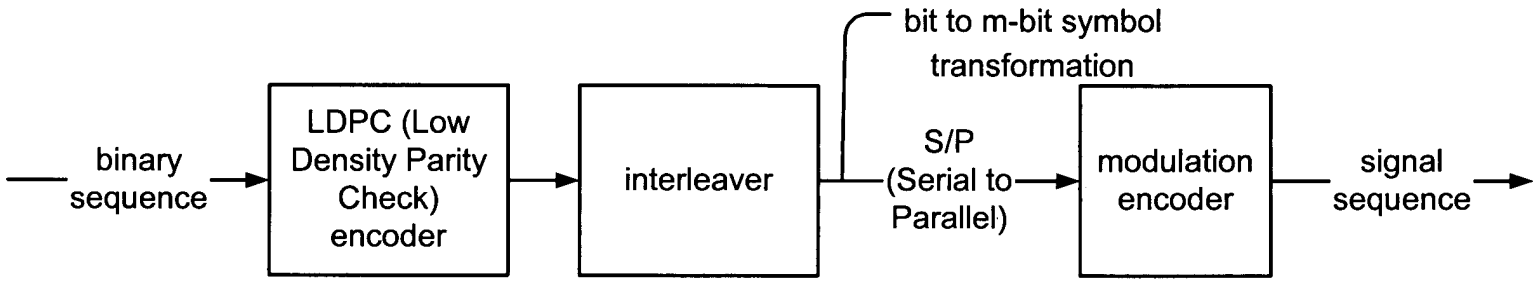
LDPC (Low Density Parity Check) code bipartite graph

Fig. 16



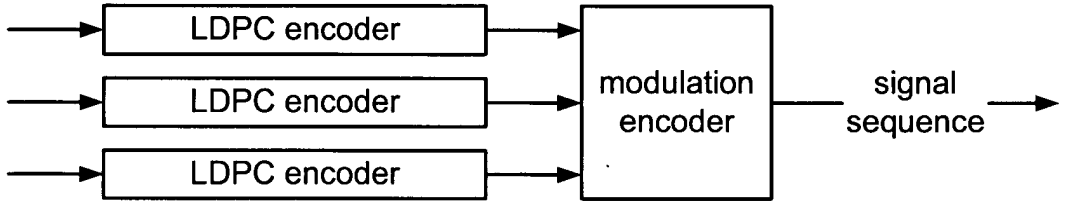
direct combining of LDPC (Low Density Parity Check) coding and modulation

Fig. 17A



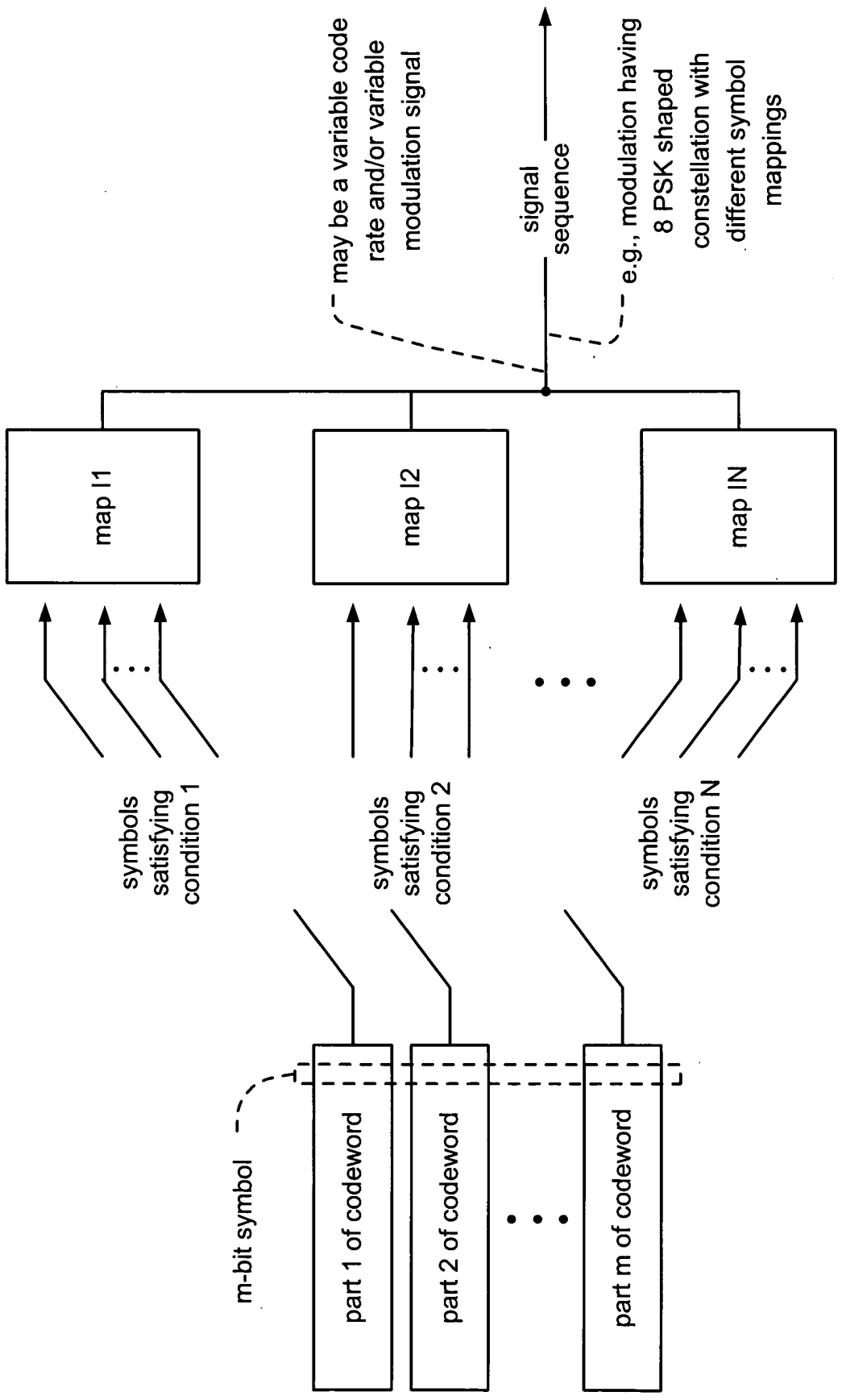
BICM (Bit Interleaved Coded Modulation)

Fig. 17B



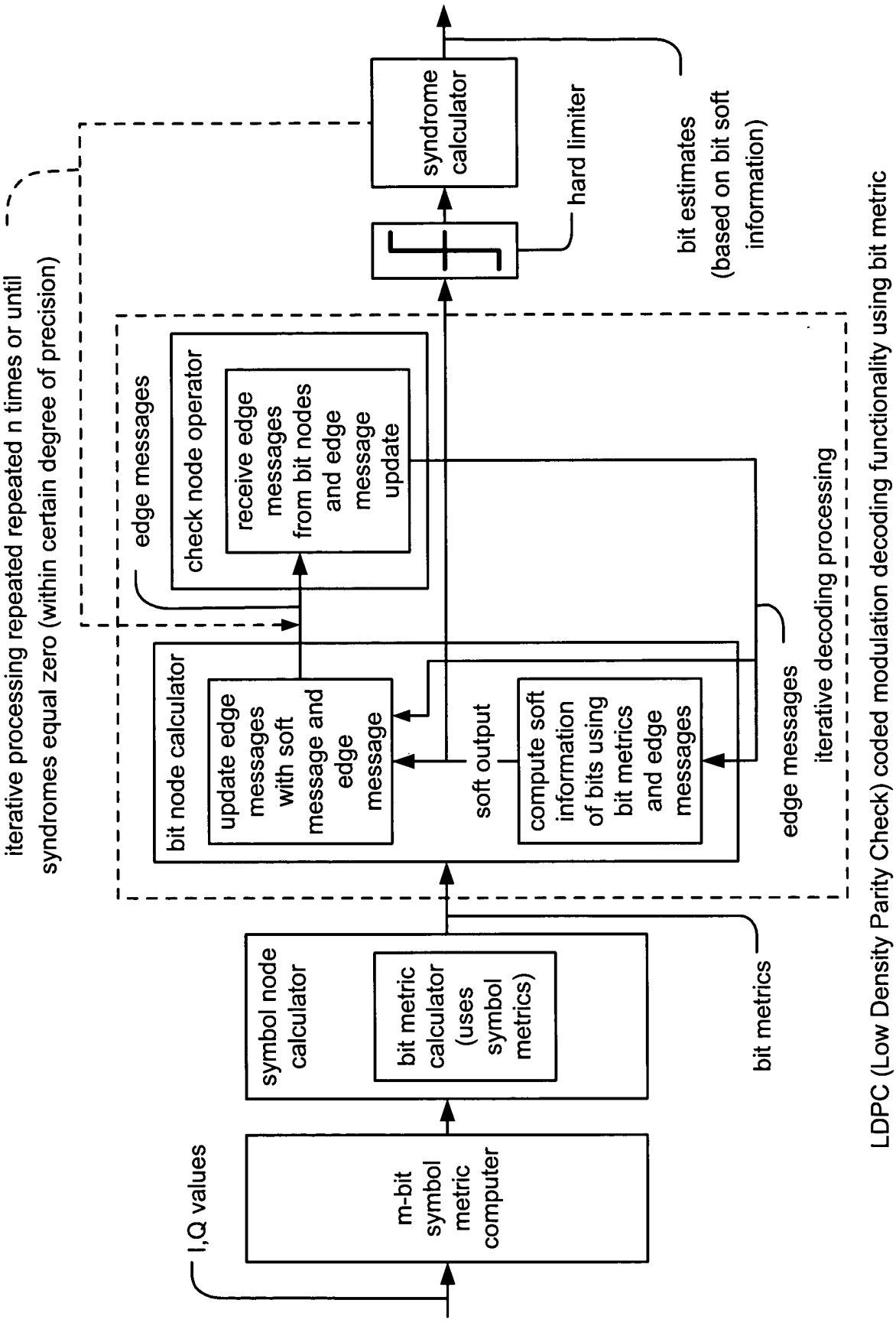
multilevel coded modulation

Fig. 17C



variable signal mapping LDPC (Low Density Parity Check) coded modulation system

Fig. 18



LDPC (Low Density Parity Check) coded modulation decoding functionality using bit metric

Fig. 19

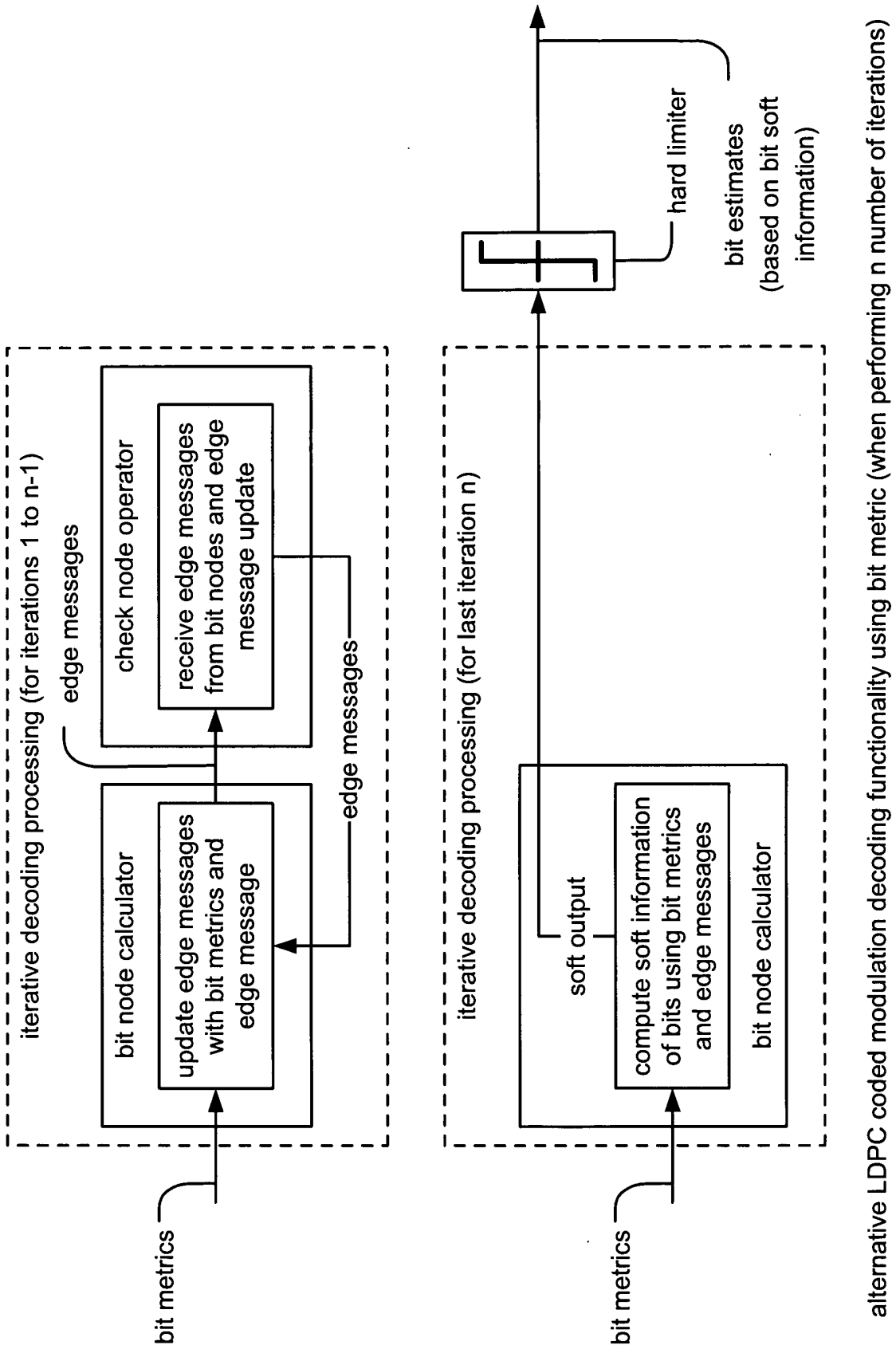


Fig. 20

alternative LDPC coded modulation decoding functionality using bit metric (when performing n number of iterations)

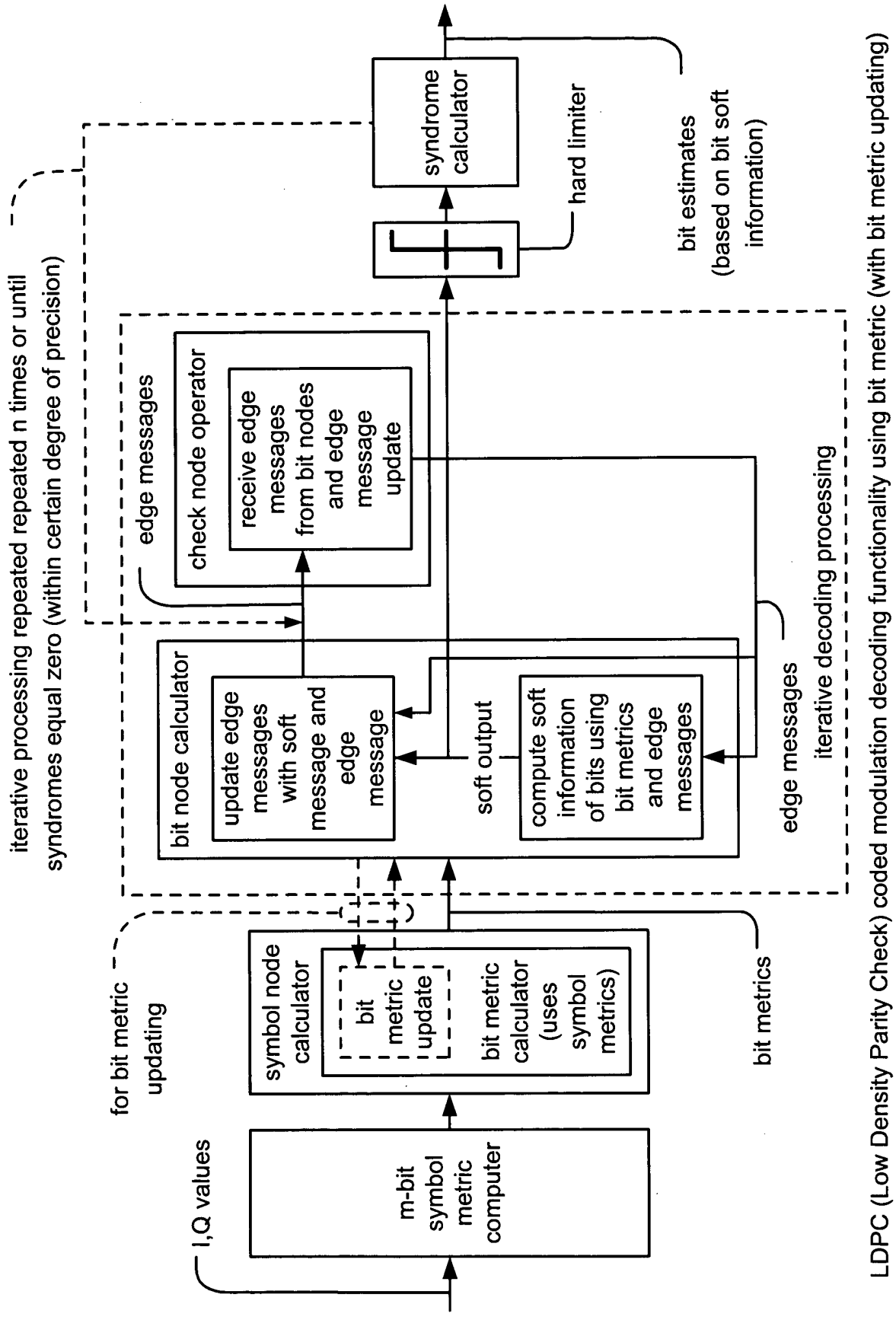
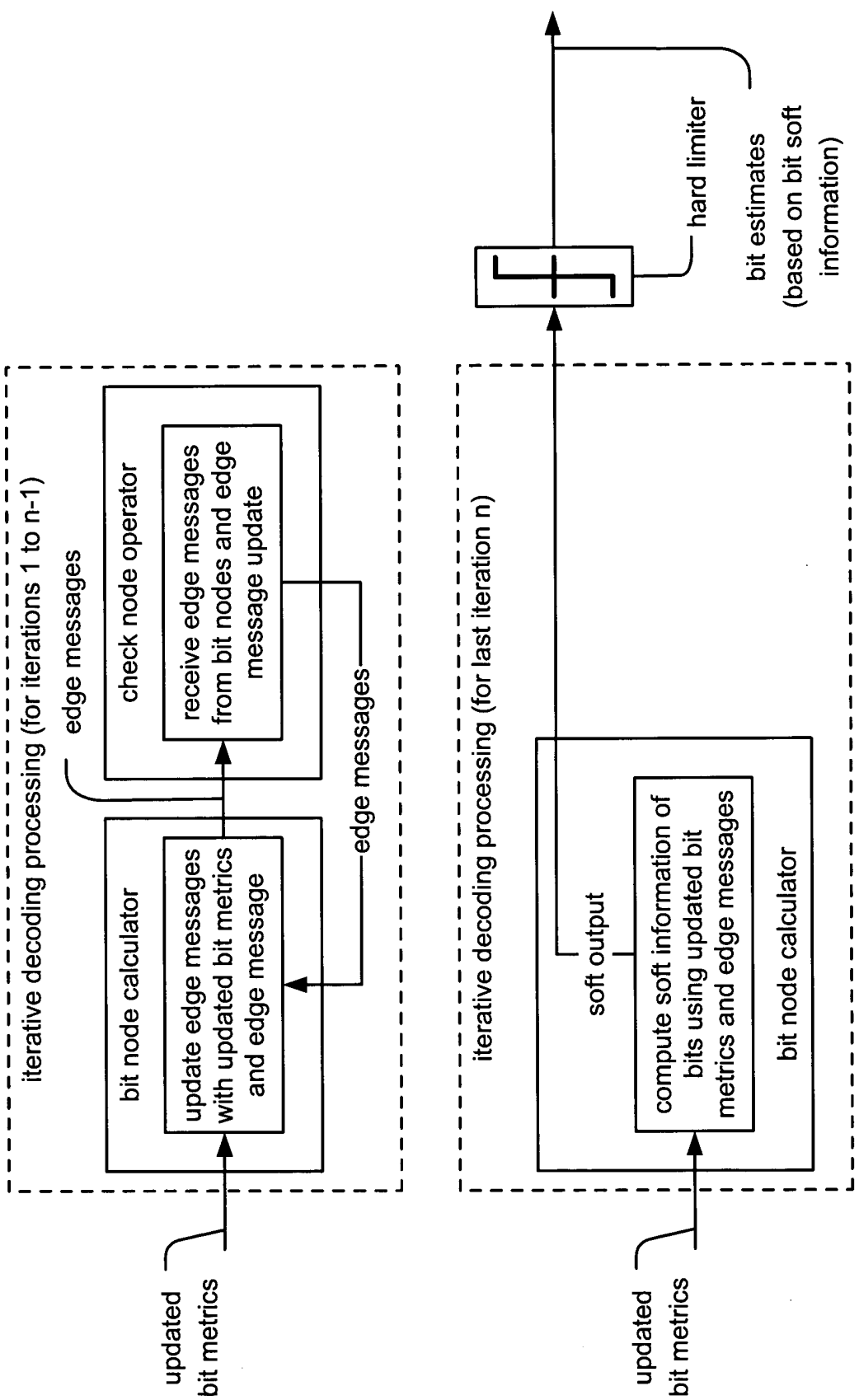


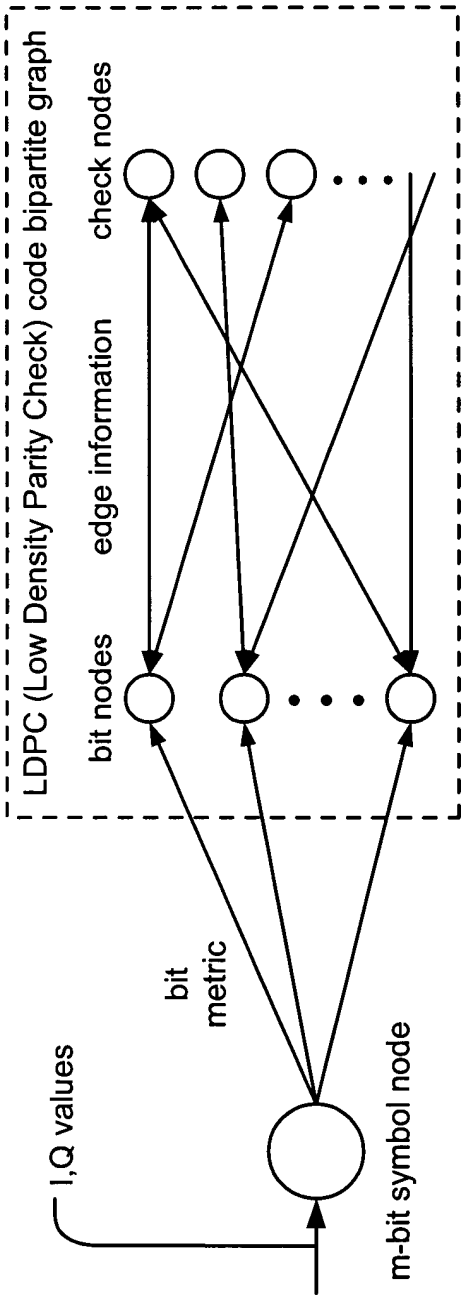
Fig. 21

LDPC (Low Density Parity Check) coded modulation decoding functionality using bit metric (with bit metric updating)



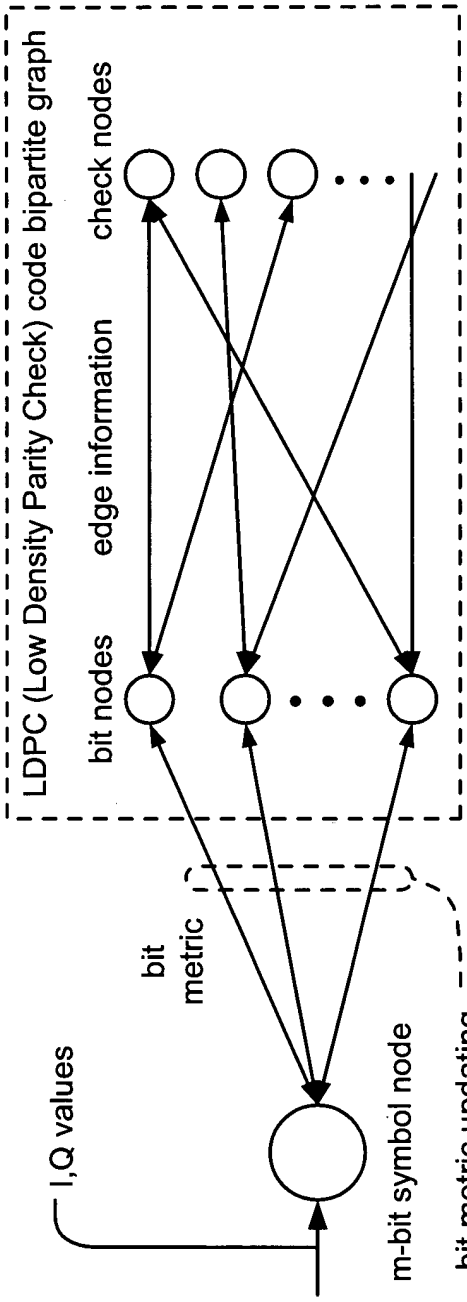
alternative LDPC coded modulation decoding functionality using bit metric (with bit metric updating) (when performing n number of iterations)

Fig. 22



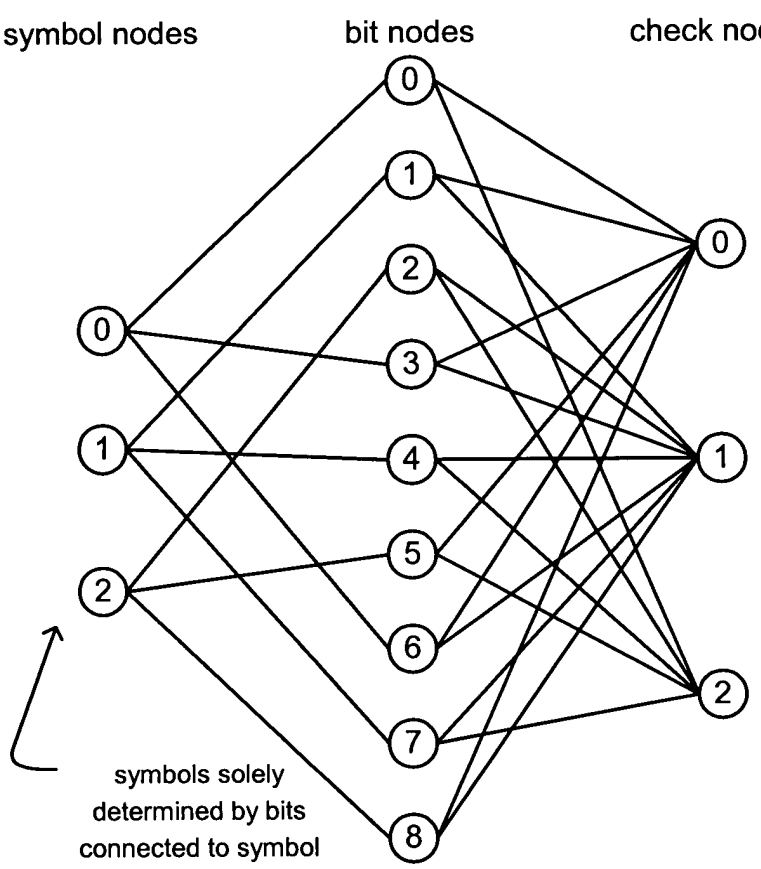
bit decoding using bit metric (shown with respect to LDPC code bipartite graph)

Fig. 23A



bit decoding using bit metric updating (shown with respect to LDPC code bipartite graph)

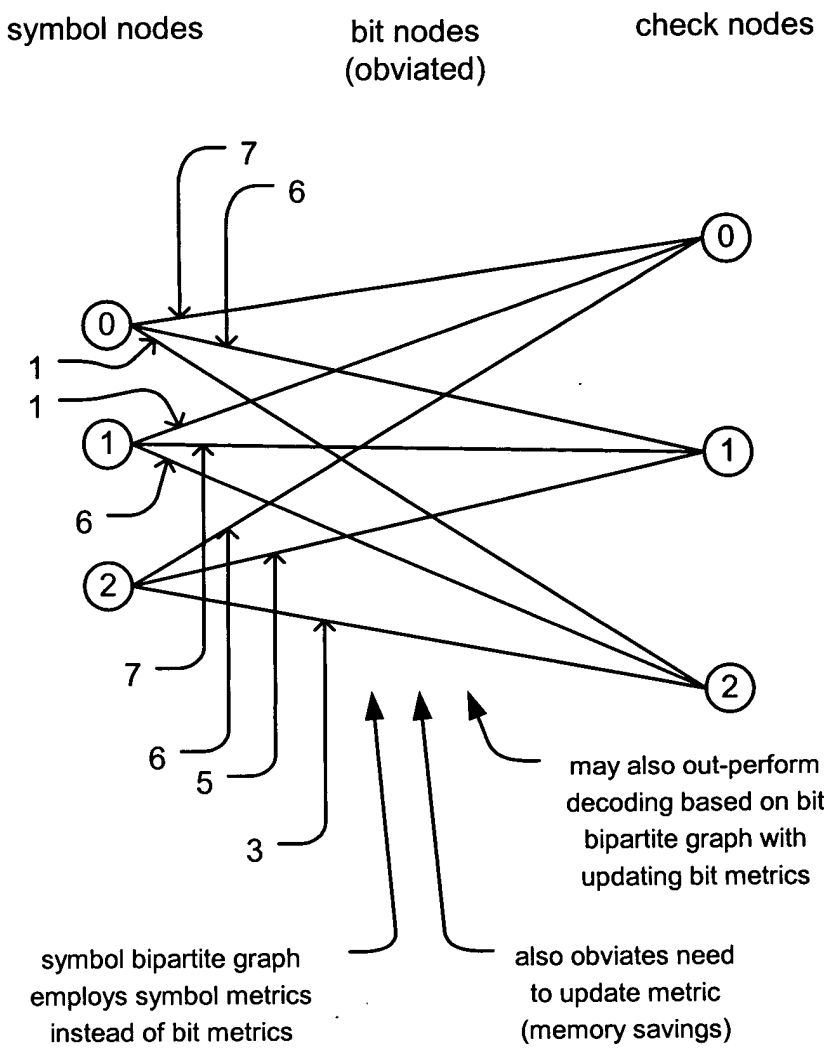
Fig. 23B



$$s_0 \leftrightarrow (b_0, b_3, b_6) \quad s_1 \leftrightarrow (b_1, b_4, b_7)$$
$$s_2 \leftrightarrow (b_2, b_5, b_8) \qquad \text{EQ 1}$$

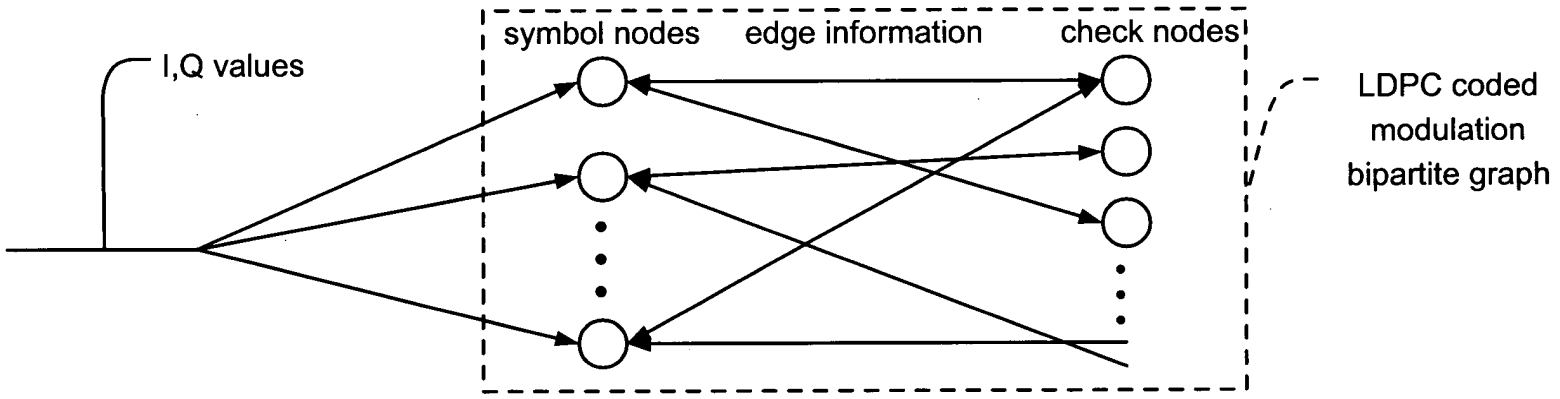
LDPC (Low Density Parity Check) coded modulation tripartite graph with symbol nodes connected to bit nodes

Fig. 24A



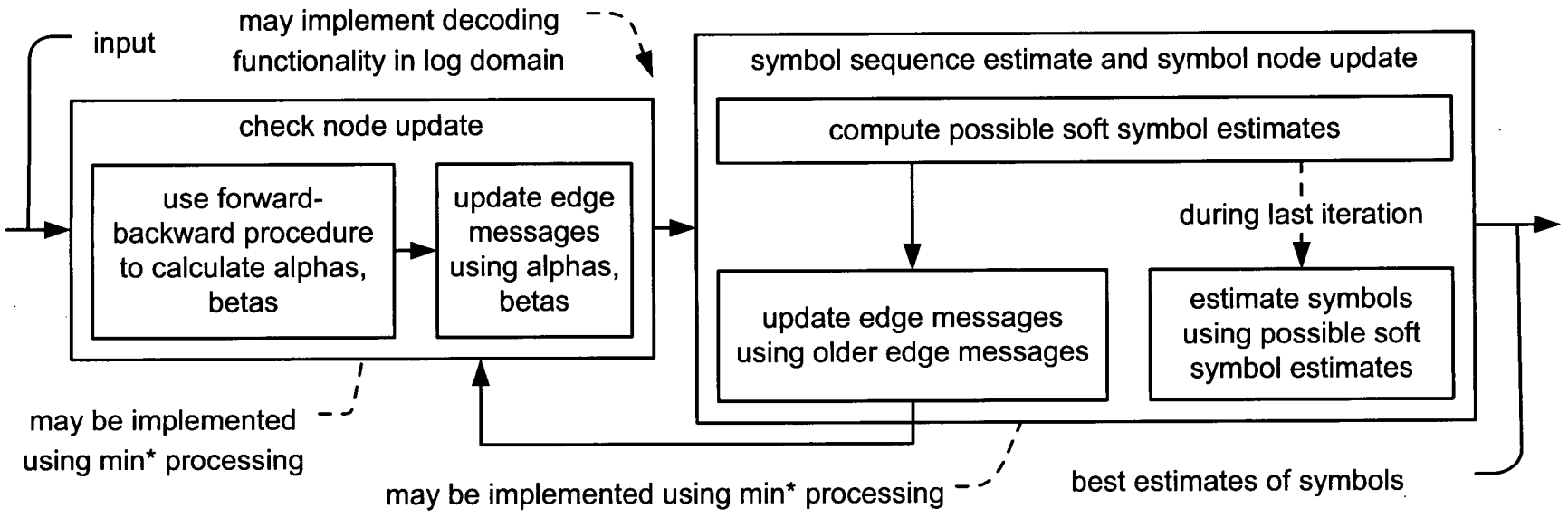
LDPC coded modulation bipartite graph with symbol nodes connected directly to check nodes (with labeled edges)

Fig. 24B



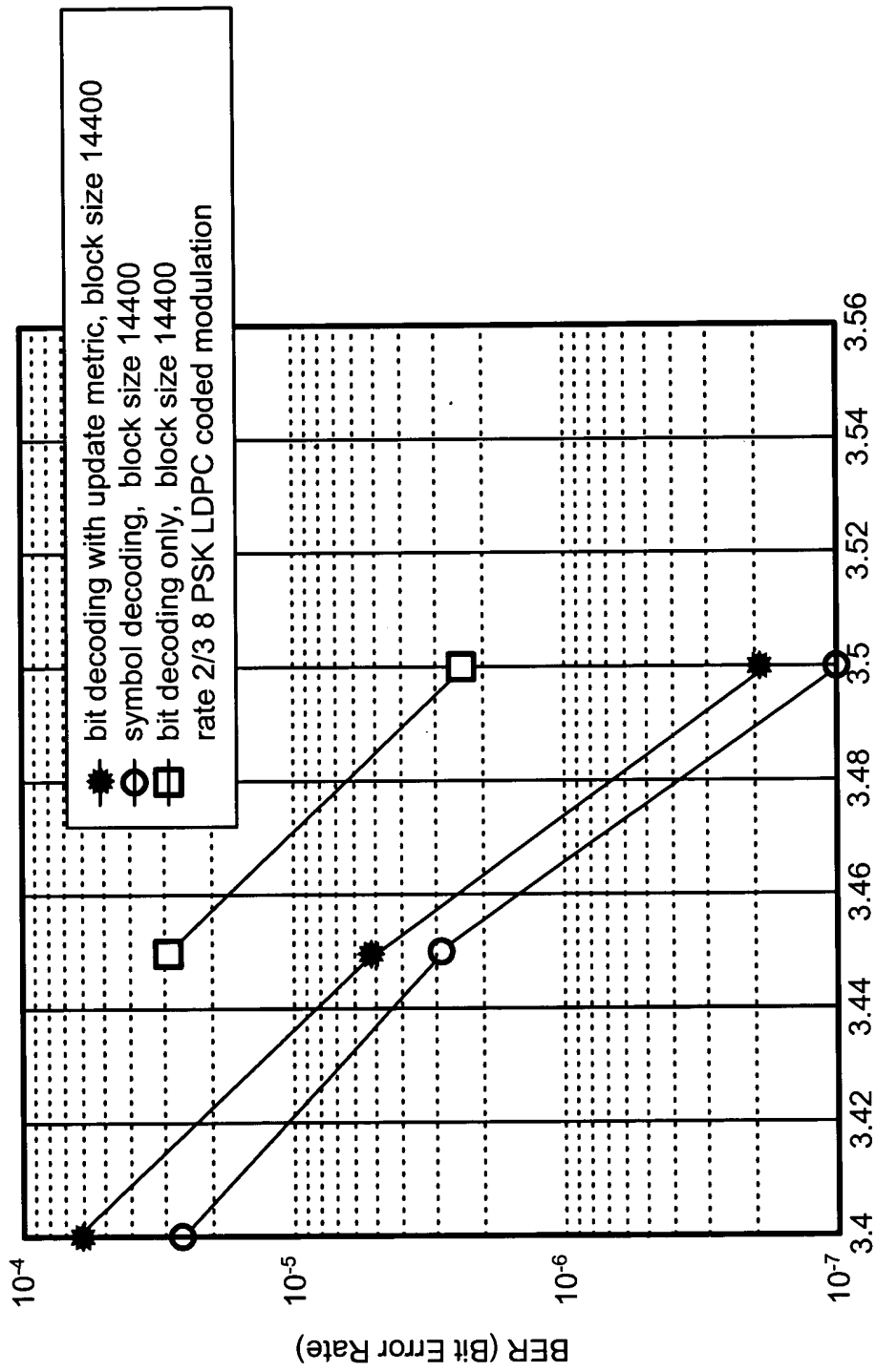
symbol decoding (shown with respect to LDPC (Low Density Parity Check) coded modulation bipartite graph)

Fig. 25A



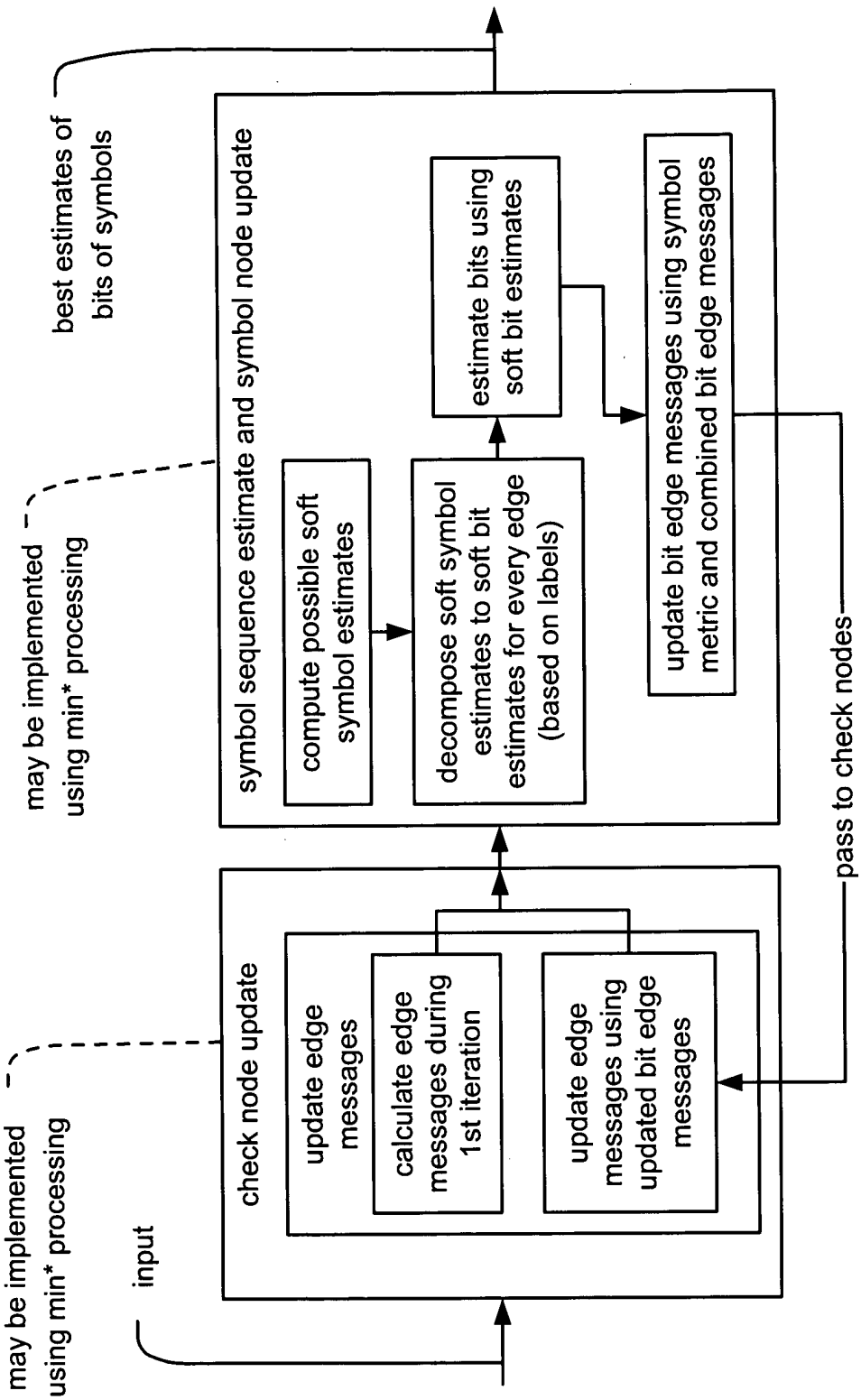
symbol decoding functionality (supported with LDPC (Low Density Parity Check) coded modulation bipartite graph)

Fig. 25B



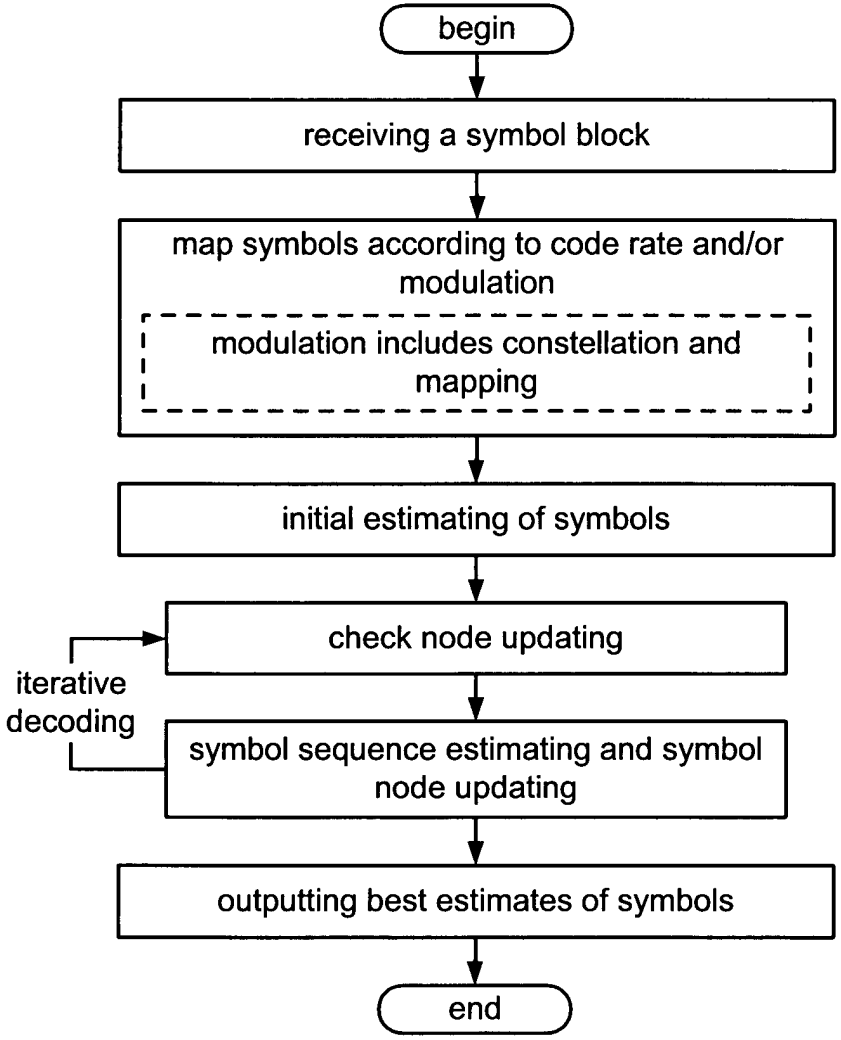
performance comparison of symbol vs. bit decoding of LDPC (Low Density Parity Check) coded modulation signals

Fig. 26



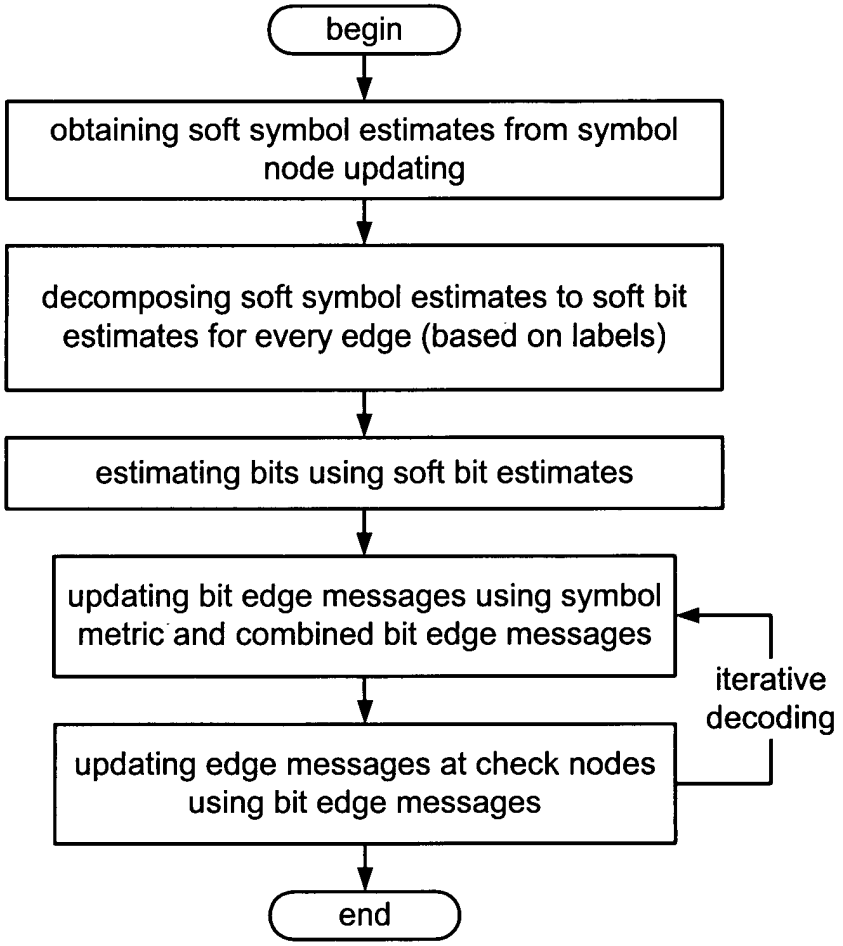
hybrid decoding functionality that reduces complexity of symbol decoding of LDPC coded modulation signals

Fig. 27



method for symbol decoding of LDPC coded modulation signals

Fig. 28A



hybrid decoding method of LDPC coded modulation signals

Fig. 28B